

BEFORE THE  
POLLUTION CONTROL HEARINGS BOARD  
STATE OF WASHINGTON

IN THE MATTER OF  
ALLIED AQUATICS OF WASHINGTON,  
INC.,

Appellant,

v.

STATE OF WASHINGTON,  
DEPARTMENT OF ECOLOGY,

Respondent.

PCHB-No. 86-92-

FINAL FINDINGS OF FACT,  
CONCLUSIONS OF LAW,  
AND ORDER

THIS MATTER, the appeal of certain conditions of an order allowing temporary reduction in water quality for purposes of herbicide application to Lake Ketchum, came on for hearing before the Pollution Control Hearings Board on June 30, 1986, at Lacey, Washington. Seated for and as the Board were Lawrence J. Faulk, Wick Dufford, and Gayle Rothrock (presiding). Respondent public agency elected a formal hearing, pursuant to terms of Chapter 43.21B.230 RCW.

Appellant company appeared and was represented by its president Douglas Dorling. Respondent agency appeared and was represented by

1 Assistant Attorney General Allen T. Miller, Jr.

2 Witnesses were sworn and testified. Exhibits were admitted and  
3 examined. Argument was heard. From the testimony, evidence, and  
4 contentions of the parties the Board makes these

5 FINDINGS OF FACT

6 I

7 Appellant company Allied Aquatics, Inc., has existed as an  
8 independent business for five years specializing in chemical and  
9 non-chemical means of aquatic weed control in Washington State. It is  
10 located just south of Olympia in Thurston County. Its president has  
11 ten years of direct experience in herbicides and pesticide application  
12 and an additional ten years of related experience.

13 II

14 The Washington State Department of Ecology (WDOE) is authorized to  
15 implement the Water Pollution Control Act (Chapter 90.48 RCW) and the  
16 Water Resources Act of 1971 (Chapter 90.54 RCW), including monitoring  
17 the quality of public waters and attending to their management. In  
18 exercising these duties, WDOE called for the development of a  
19 comprehensive Environmental Impact Statement on aquatic plant control  
20 methods in 1980 and uses that document to assist in making water  
21 quality determinations.

22 III

23 In March of 1986, Allied Aquatics submitted a request for a  
24 temporary modification of the water quality standards for Ketchum Lake  
25 in Snohomish County during the period from May 1, 1986 through October

1, 1986. The purpose was to provide for herbicide and algicide treatments with a specific variety of chemicals once or twice during the summer. The application and environmental checklist showed non-chemical treatments were ruled out after consideration. Four chemicals: Aquathol K, Komeen, copper sulphate, and Diquat were desired for use. The renewed recreational opportunities for boating, fishing, and swimming were anticipated as a positive impact. An applicator's permit from the State Department of Agriculture had already been secured.

WDOE's enforcement officer circulated the application within the agency and to other agencies and received several comments from the Department of Game (WDOG). Concerned about removal of vegetation from the lake, particularly by chemical means, and alarmed about possible copper toxicity to fish and wildlife which might develop, WDOG asked that no copper sulphate be used, that 40 percent of rooted plants supported by the shoreline be left, and that all treatment at the eastern and southern shores of the lake adjacent to wetlands be deleted. They also asked that EPA label restrictions be followed explicitly and that WDOG get its customary notification prior to treatment and in the event of any fish kill.

#### IV

On the basis of the WDOG recommendation, the WDOE issued on May 8, 1986, administrative order DE 86-434 denying the use of Diquat and copper sulfate and imposing various notice, time, and use requirements on the spray applicator. Area restrictions were also imposed.

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1 The administrative order stated it was issued in accordance with  
2 RCW 90.48.120(2) and was temporarily modifying water quality standards  
3 specified at WAC 173-201-045(5)(c)(vii) for a limited period of time,  
4 as specifically allowed at WAC 173-201-035(8)(c)(1). In addition to  
5 the denial of the two above-mentioned chemical products, some sixteen  
6 conditions were added to the approval order.

7 V

8 The Lake Ketchum Shores Improvement Club is an organization of  
9 lakefront property owners which for years has been attempting to  
10 police the water quality of the lake on a voluntary basis. Last year,  
11 a local improvement district was established to enable mandatory  
12 assessments on all lakefront owners for lake improvement purposes.  
13 The L.I.D. directors budgeted and assessed \$3,000 in herbicide spray  
14 costs and \$800 in algicide spray costs for 1986 as the property  
15 owners' burden for aquatic weeds control. They approved this after  
16 accepting recommendations from Allied Aquatics on a spray program.

17 Allied Aquatics and some subscribers to the L.I.D. met with state  
18 government officials, including those in the Regional Office Habitat  
19 Management Program for the Department of Game, to review the  
20 components of a spray program for 1986. Neither the L.I.D.  
21 subscribers nor Allied Aquatics has any recollection of WDOG officials  
22 indicating copper sulfate would be denied as an algicide during those  
23 planning discussions.

24 At least some of the leadership of the Club and L.I.D. was not  
25 fully familiar with the costs and constituents of the weed spraying

program on the lake the previous four years, so they were unaware  
copper sulfate's use as an algicide had been denied for the 1985  
summer spraying.

## VI

Aquathol K and Komeen are label listed as suitable agents for the  
elimination of troublesome aquatic weeds. Komeen by itself is an  
active agent in the elimination of the water weeds elodea and southern  
Naiad. Due to some chemical properties which develop when these two  
agents are used in simultaneous application on a water body they also  
act as an algicide. It is a secondary effect, functioning as an  
expensive solution to an algae bloom. Komeen's label does not list  
control of algae as one of its uses.

Komeen (copper-ethylenediamine) is up to 8% chelated copper.  
Copper is not in a free state in this compound and cannot quickly  
separate. Testimony at hearing suggests, that in the abstract,  
copper in a chelated form stands less chance of being toxic than  
copper sulfate. No demonstration of that result was made for Ketchum  
Lake or other Western Washington lakes. Copper sulfate is not a  
chelated compound and has a larger percentage of copper than does  
Komeen. This means that more Komeen is needed to produce the same  
algicidal result as is obtained with copper sulfate. In the end, the  
amount of copper introduced into the lake is likely to be the same.  
Komeen, thus, has no demonstrated advantage over copper sulfate as an  
algicide. Komeen's use for that purpose, however, is much more  
expensive.

1 Appellant produced evidence that the concentrations of copper used  
2 in aquatic plant control do not seem to be toxic to wildlife or stock,  
3 and studies showing there is no toxicity to fish except through  
4 misapplication of the various compounds. Respondents produced no  
5 convincing countervailing evidence.

#### 6 VII

7 Lakefront residents testified that earlier this year the growth of  
8 algae over large parts of the lake surface rendered normal  
9 recreational use of the lake all but impossible.

10 The green slime presented an aesthetic affront, plainly  
11 demonstrated by photographic evidence. The slime was also offensive  
12 to swim in and it. It severely discouraged boating and fishing.

13 An application of Komeen and Aquathol K in June eliminating the  
14 algae and completely changed the nature and intensity of lake use.  
15 For the local residents getting rid of the algae meant, in effect,  
16 getting the lake back.

17 To accomplish this, however, they were obliged to spend more than  
18 their entire herbicide budget for the year. If another treatment is  
19 needed later in the summer, money is not available for it.

#### 20 VIII

21 No evidence was presented on public use of Ketchum Lake or its  
22 relative importance as a fishery. Rainbow trout are planted there  
23 annually. Bass, bluegill sunfish, yellow perch and other spring game  
24 fish reside in the lake.

25 Past use of copper sulfate in the lake has produced no documented

1 all effects on the fish stocks there.

2 IX

3 WDOE's denial of the use of copper sulfate as an algicide on Lake  
4 Ketchum was based solely on the recommendation to that effect received  
5 from the WDOG. On other lakes where no WDOG objection has been  
6 received, WDOE has permitted the use of copper sulfate.

7 X

8 The application of copper sulfate would affect the quality of the  
9 water only for a matter of hours.

10 The WDOG's major fears relate not to the effects of copper sulfate  
11 during its short term in the water column, but to the long-term  
12 effects of copper collected in bottom sediments on the benthic  
13 community. A fear that fish eggs may draw in copper during their  
14 initial flaccid stage was also expressed.

15 We are concerned about these alarms but were not persuaded of  
their validity in the lake environment under scrutiny here. No  
7 convincing supportive evidence to substantiate these fears was  
8 presented.

9 XI

10 When DE 86-434 was received by Allied Aquatics and its contents  
11 shared with the L.I.D. subscribers through the Lake Ketchum Shores  
12 Improvement Club, a determination was made to appeal. The company,  
13 Allied Aquatics, focused their grievance specifically on WDOE's denial  
14 of use of copper sulfate as an algicide. On June 5, 1986, the Board  
15 received the company's appeal and assigned it cause number PCHB 86-92.

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XII

Any Conclusion of Law which is deemed a Finding of Fact is hereby adopted as such.

From these Findings of Fact the Board comes to these

CONCLUSIONS OF LAW

I

The Board has jurisdiction over these persons and these matters. Chapters 43.21B, 90.48, and 90.54 RCW.

II

The Water Pollution Control Act of the State of Washington provides at chapter 90.48.010 RCW for maintenance of standards for quality water consistent with human, animal, fish, and plant life protection and public enjoyment opportunities.

Chapter 90.54.020(3)(b) RCW, the Water Resources Management Act of 1971, provides:

The quality of the natural environment shall be protected and, where possible, enhanced as follows:

(b) Waters of the state shall be of high quality . . . Notwithstanding that standards of quality established for the waters of the state would not be violated, wastes and other materials and substances shall not be allowed to enter such waters which will reduce the existing quality thereof, except in those situations where it is clear that overriding considerations of the public interest will be served.

In Hurd v. Department of Ecology, PCHB No. 85-58 (July 17, 1985), we rejected the notion "overriding considerations of the public interest" had to be present before an aquatic herbicide could be

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1 applied to a residential lake. We stated:

2 We do not think that the Legislature intended to  
3 limit the use of herbicides around water to cases  
4 involving some sort of public crisis. We think the  
5 purpose of RCW 90.54.020(3)(b) was to prevent water  
6 quality degradation of a more lasting and pervasive  
7 nature than the controlled use of herbicides  
8 normally entails.

9 We went on to conclude that the case was governed by WAC  
10 173-201-035(8)(e). We adhere to this prior ruling in the instant case  
11 and base our conclusion on the cited regulation.

12 III

13 WAC 173-201-035(8)(e), in pertinent part, reads:

14 The criteria and special conditions established in  
15 WAC 173-201-045 through 173-201-085 may be modified  
16 for a specific water body on a short-term basis  
17 when necessary to accommodate essential activities,  
18 respond to emergencies, or to otherwise protect the  
19 public interest. Such modification shall be issued  
20 in writing by the director or his designee subject  
21 to such terms and conditions as he may prescribe.  
22 The aquatic application of herbicides which result  
23 in water use restrictions shall be considered an  
24 activity for which a short-term modification  
25 generally may be issued . . . (Emphasis added).

26 We do not characterize the use of copper sulfate in Ketchum Lake  
27 as involving either essential activities or a true emergency, although  
28 poor visibility in the water presents a significant safety issue for  
29 those who might enter the muck to swim. We conclude that the matter  
30 should be evaluated under the "otherwise protect the public interest  
31 criterion."

32 VI

33 The water quality criteria for lakes such as Ketchum Lake are

1 found in WAC 173-201-045(5). Subsection (vii) thereof provides:

2 Toxic, radioactive, or deleterious material  
3 concentrations shall be less than those which may  
4 affect public health, the natural aquatic  
environment, or the desirability of the water for  
any use.

5 This is the standard from which the short term variance is sought.  
6 Interestingly, the performance of work under the variance is designed  
7 to restore the characteristic recreational uses which the standards  
8 are designed to protect.

9  
10 Balancing the water use benefits of applying copper sulfate in  
11 this case against the largely unsubstantiated fears concerning its  
12 use, we conclude that the public interest would be better served by  
-3 allowing it to be applied.

14 v

15 The public interest is not advanced unless restrictions written  
16 into an aquatic weed control administrative Order are clearly  
17 reasonable and supportable. Property owners are obliged to assess  
18 themselves fees and make changes in property use and enjoyment for  
19 both the short-term and the long run to clean up lakes. It cannot be  
20 expected those financial and personal commitments can be taken lightly  
21 or without advance planning and the weighing of alternatives. Here  
22 property owners were prepared to make a fixed financial commitment  
23 through their L.I.D. and a personal adjustment for the summer 1986  
24 sprayings, after consulting with governmental officials and a  
25 herbicide applicator service, and some terms of the order came as a

1 disruptive surprise to them. Pressed with some urgency to get  
2 significant weed and algae growth under control in June, the property  
3 owners and sprayer obeyed all the restrictions in the order and found  
4 themselves suddenly financially unable to effect another spraying in  
5 August.

6 Appellants showed the WDOE denial of the use of copper sulfate, an  
7 affordable algicide, based solely on WDOG's recommendation was  
8 unreasonable under the circumstances. Where, as here, appellants  
9 present evidence which taken by itself disproves any deleterious  
10 effects of a material, more than unsubstantiated fears needs to be  
11 presented to sustain a denial of its use. We do not particularly  
12 fault WDOE in this regard, but suggest that WDOG, if it is serious  
13 about preventing the use of copper sulfate, should provide convincing  
14 data throughout a review process to back up its opposition. The  
15 denial of copper sulfate should be stricken from the Order. In all  
16 other respects, the Order should be upheld.

#### 17 VI

18 Any Finding of Fact which is deemed a Conclusion of Law is hereby  
19 adopted as such.

20 From these Conclusions of Law the Board enters this

ORDER


Department of Ecology Order DE86-434 is affirmed; provided, however, the disallowance of the use of copper sulfate is vacated.

DONE this 9th day of July, 1986.

POLLUTION CONTROL HEARINGS BOARD

  
GAYLE ROTHROCK, Vice Chairman

  
LAWRENCE L. FAULK, Chairman

  
WICK DUFFORD, Lawyer Member